

ABSTRACT

The present invention relates to a liquid crystal display, more particularly, to a thin film transistor-liquid crystal display, which presents the degradation of contrast by minimizing the reflection rate of light on a data line as well as improves an opening ratio.

The present invention includes a color filter substrate of a first transparent substrate including a color filter filtering light and a common electrode, a gate line on a second transparent substrate, a data line crossing with the gate line, the data line insulated from the gate line, a gate electrode at a cross-section between the gate line and the data line, the gate electrode diverging from and protruding out of the gate line, a TFT transistor including a source electrode connected to the data line and a drain electrode separated from and confronting the source electrode, a low-reflective layer covering the data line and the gate electrode, the low-reflective layer blocking a light filtered by the color filter not to leak to the direction, which is not a window and reducing reflexivity of the light irradiated on surfaces of the data and gate lines, a passivation layer covering the TFT including the low-reflective layer wherein the contact hole exposing a portion of the drain electrode through the contact hole, and liquid crystal injected and sealed between the TFT array substrate and the color filter substrate.

Accordingly, the present invention enables to increase an opening ratio by introducing a structure of the color filter substrate without a black matrix and the TFT array substrate where the pixel electrode is partially overlapped with the data and gate lines.

Moreover, the present invention enables to improve the image quality since the low-reflective layer works as a black matrix for blocking a light not to leak as well as reduces greatly reflexivity of light irradiated on the data and gate lines during light irradiation.